Academic Year العام الدراسي	2023/2024
Term الفصل	1
Subject	Physics- Bridge
المادة	الفيزياء
Grade الصف	11
Stream	General
المسار	العام
Number of MCQ عدد الأسئلة الموضوعية	15
Marks of MCQ درجة الأسئلة الموضوعية	4
Number of FRQ عدد الأسئلة المقالية	5
Marks per FRQ الدرجات للأسئلة المقالية	(5-10)
Type of All Questions نوع كافة الأسئلة	MCQ/ الأسئلة الموضوعية FRQ/ الأسئلة المقالية
Maximum Overall Grade الدرجة القصوى الممكنة	100
Exam Duration - مدة الامتحان	150 minutes
Mode of Implementation -طريقة التطبيق	SwiftAssess & Paper-Based
Calculator	Allowed
الآلة الحاسبة	مسموحة

	Question* السؤال*	Learning Outcome/Performance Criteria** ناتج التعلم/ معاييرالأداء**	Reference(s) in the Student Book / المرجع في كتاب الطالب Example/Exercise مثال/تمرين	Page الصفحة
MCQ - الأسئلة الموضوعية	1	Demonstrate that the velocity vector at any time is tangent to the circular path for an object in uniform circular motion.	figure 9	12
	2	Define the centripetal/central force.	as mentioned in the book question 18	13 15
	3	Relate the centripetal acceleration to the object's speed and the radius of the circular path (ac=v2/r).	questions 56,57	23
	4	Explain Kepler's Third Law which states that the square of the ratio of the periods of any two planets revolving about the Sun is equal to the cube of the ratio of their average distances from the Sun and write it in equation form ((TA/TB)2=(rA/rB)3).	as mentioned in the book question 33	32 48
	5	Explain Kepler's Second Law which states that an imaginary line from the Sun to a planet sweeps out equal areas in equal time intervals.	as mentioned in the book	31
	6	Justify Kepler's Third Law by using Newton's Second Law of motion and Newton's Law for universal gravitation.	as mentioned in the book	34
	7	Apply the law of universal gravitation to calculate the gravitational force or other unknown parameters.	questions 38, 43	48
	8	Define a radian and convert degrees to radians and vice-versa	as mentioned in the book	57
	9	Relate the linear velocity (v) to the angular velocity ( ) and the distance (r) from the axis of rotation ω	problem 4	59
	10	Apply the relationship between average angular acceleration, change in angular velocity, and the time interval for that change	problem 2	59
	11	Apply the relationship between angular displacement and the initial and final angular positions	problem 1	59
	12	Define angular displacement	as mentioned in the book	56
	13	Apply the relation (= Frsin) to calculate the matnitude of torque ( ) for a force force of magnitude (F) where (r) is the distance from the axis of rotation to the point where the force is exerted, and is the angle between the force and the radius from the axis of rotation to the point where the force is applied τ θ τ θ	question 63	81
	14	Calculate the net torque when more than one torque acts on a body about a rotation axis	figure 9	63
	15	Explain and state Kepler's three Laws of planetary motion	as mentioned in the book	31-32
FRQ - الأسئلة المقالية	16.A	Relate the arc length (x) to the angular displacement ( ) and the distance (r) from the axis of rotation, relate the linear velocity (v) to the angular velocity ( ) and the distance (r) from the axis of rotation and relate the linear acceleration (a) to the angular acceleration ( ) and the distance (r) from the axis of rotation θ ω	table 1	58
	16.B	Apply the relationship between a force F and the work done on a system by the force when the system undergoes a displacement d: W = Fd cos where is the angle between the direction of the force and the direction of displacement	example 2	93
	17	Relate the centripetal acceleration and the speed of an object in uniform circular motion to its period of revolution and use this relation to find unknown parameters (v=2 r/T, ac=4 2r/T2).	example 3	14
	18	Calculate the net torque when more than one torque acts on a body about a rotation axis	example 1	62
	19.A 19.B	Calculate the orbital speed of a satellite. Calculate the orbital period of a satellite	example 2	40
	20	Solve problems related to rotational variables	problem 3,4	59
*	Questions might appear in a different order in the actual exam, or on the exam paper in the case of G3 and G4.			
*	قد تظهر الأسئلة بترتيب مختلف في الامتحان الفعلي، أو على ورقة الامتحان في حالة الصفين G3 وG4.			
**	As it appears in the textbook, LMS, and (Main_IP).			
**	كما وردت في كتاب الطالب وLMS والخطة الفصلية .			